

**Directions:**

Evaluate the student by checking the appropriate number or letter to indicate the degree of competency. The rating for each task should reflect **employability readiness** rather than the grades given in class.

**Rating Scale:**

- 3 Mastered** – can work independently with no supervision
- 2 Requires Supervision** – can perform job completely with limited supervision
- 1 Not Mastered** – requires instruction and close supervision
- N No Exposure** – no experience or knowledge in this area

NOTE: The code in parentheses is the competency identification number used in computerized management systems.

| 3 | 2 | 1 | N | <b>A. Introduction to Biotechnology</b>                            | <b>Notes:</b> |
|---|---|---|---|--|---------------|
|   |   |   |   | 1. Summarize the importance of biotechnology to agriculture (A001) |               |
|   |   |   |   | Other:   |               |

| 3 | 2 | 1 | N | <b>B. Issues in Biotechnology</b>  | <b>Notes:</b> |
|---|---|---|---|--|---------------|
|   |   |   |   | 1. Explain the major issues associated with agricultural biotechnology (B001)            |               |
|   |   |   |   | 2. Identify government agencies involved in biotechnology (B002)                         |               |
|   |   |   |   | 3. Identify procedures involved in obtaining a patent for a biotechnology product (B003) |               |
|   |   |   |   | Other:   |               |

| 3 | 2 | 1 | N | <b>C. Basic Laboratory Skills</b>   | <b>Notes:</b> |
|---|---|---|---|---|---------------|
|   |   |   |   | 1. Describe the steps in the scientific method (C001)                       |               |
|   |   |   |   | 2. Demonstrate the proper use of laboratory equipment and techniques (C002) |               |
|   |   |   |   | 3. Explain why safety practices should be followed in the laboratory (C003) |               |
|   |   |   |   | Other:  |               |

| 3 | 2 | 1 | N | <b>D. Foundations of Genetic Engineering</b>                               | <b>Notes:</b> |
|---|---|---|---|--|---------------|
|   |   |   |   | 1. Identify the parts of a cell, including DNA, and their functions (D001) |               |
|   |   |   |   | 2. Explain how cells reproduce (D002)                                      |               |
|   |   |   |   | 3. Describe the processes of genetic modification (D003)                   |               |
|   |   |   |   | Other:   |               |

| 3 | 2 | 1 | N | <b>E. Animal Technologies</b>   | <b>Notes:</b> |
|---|---|---|---|---|---------------|
|   |   |   |   | 1. Describe the process of artificial insemination (E001)             |               |
|   |   |   |   | 2. Describe the process of embryo transfer (E002)                     |               |
|   |   |   |   | 3. Identify other applications of biotechnology in animals (E003)     |               |
|   |   |   |   | 4. Summarize the impact of biotechnology on animal agriculture (E004) |               |
|   |   |   |   | Other:  |               |

| 3 | 2 | 1 | N | <b>F. Plant Technologies</b>   | <b>Notes:</b> |
|---|---|---|---|--|---------------|
|   |   |   |   | 1. Describe traditional plant breeding processes (F001)              |               |
|   |   |   |   | 2. Explain the process of tissue culture (F002)                      |               |
|   |   |   |   | 3. Describe current applications of biotechnology in plants (F003)   |               |
|   |   |   |   | 4. Identify emerging applications of biotechnology in plants (F004)  |               |
|   |   |   |   | 5. Summarize the impact of biotechnology on plant agriculture (F005) |               |
|   |   |   |   | Other:   |               |

| 3 | 2 | 1 | N | <b>Leadership &amp; Personal Development for Advanced Students (Leadership Duty C)</b>        | <b>Notes:</b> |
|---|---|---|---|---|---------------|
|   |   |   |   | 1. Develop a resume and complete a job application (C001)                                     |               |
|   |   |   |   | 2. Develop a plan for finding a job (C002)  |               |
|   |   |   |   | 3. Describe how to apply and interview for a job (C003)                                       |               |
|   |   |   |   | 4. Describe the characteristics needed to develop desirable personal and social skills (C004) |               |
|   |   |   |   | 5. Describe the importance and process of developing better human relationships (C005)        |               |
|   |   |   |   | Other:  |               |

| 3 | 2 | 1 | N | <b>Using the Missouri Farm Business Record Book (SAE Duty D)</b>                           | <b>Notes:</b> |
|---|---|---|---|--|---------------|
|   |   |   |   | 1. Describe the two types of accounting methods (D001)                                     |               |
|   |   |   |   | 2. Complete the forms needed to open the Missouri Farm Business Record Book (D002)         |               |
|   |   |   |   | 3. Develop a projected cash flow (D003)  |               |
|   |   |   |   | 4. Record receipts and expenditures in the Missouri Farm Business Record Book (D004)       |               |
|   |   |   |   | 5. Complete additional records in the Missouri Farm Business Record Book (D005)            |               |
|   |   |   |   | 6. Complete the forms necessary to summarize the Missouri Farm Business Record Book (D006) |               |
|   |   |   |   | 7. Analyze the farm business using the Missouri Farm Business Record Book (D007)           |               |
|   |   |   |   | Other:   |               |